AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the present application.

IN THE CLAIMS:

1. (Canceled)

2. (Previously Presented) The sample support according to claim 39, characterized in that each reaction chamber comprises a bottom face having side surfaces extending at an angular orientation to the bottom surface, and that said capillary force generating means is realized by a sufficiently small rounding radius in the transition region between said side surfaces and said bottom surface to cause sample liquid to flow along said transition regions under the effect of capillary forces.

3. (Previously Presented) The sample support according to claim 2, characterized in that, in the transition region between the side surfaces and the bottom surface of a reaction chamber, the inflow channel is arranged to enter the reaction chamber.

4. (Previously Presented) The sample support according to claim 2, characterized in that, above the bottom surface of a reaction chamber, the inflow channel is arranged to enter the reaction chamber, and that, between the entrance of the inflow channel and the transition region between the bottom surface and the side surfaces, an inflow groove is arranged, having a cross-sectional area and shape suited to generate a flow of the sample liquid by capillary force.

5. (Previously Presented) The sample support according to claim 4, characterized in that the inflow groove is formed by the rounding radius in the transition region between two adjacent and mutually angled side surfaces of the reaction chamber.

6. (Previously Presented) The sample support according to any one of claim 2 to 5, characterized in that each sample receiving chamber comprises a bottom surface and side surfaces arranged in angular relationship thereto, and that each distributor channel is arranged to enter the associated sample receiving chamber in the transition region between the bottom surface and the side surfaces.

7. (Previously Presented) The sample support according to any one of claim 2 to 5 and 39, characterized in that each sample receiving chamber comprises a bottom surface and side surfaces arranged in angular relationship thereto, that each distributor channel is arranged to enter the associated sample receiving chamber above the transition region between the bottom surface and the side surfaces, and that an outflow groove is arranged to extend from said entrance in the direction of the bottom surface, said outflow groove having a cross-sectional area and shape suited to generate a flow of the sample liquid by capillary force.

8. (Previously Presented) The sample support according to claim 7, characterized in that said outflow groove is formed by two mutually angled side surfaces whose transition region has a rounding radius sufficiently small to generate capillary forces causing the sample liquid to flow along the transition region.

9. (Previously Presented) The sample support according to claim 39, characterized in that all of the inflow channels arranged to branch off from a distributor channel have a smaller cross-sectional area than the distributor channel.

10. (Original) The sample support according to claim 9, characterized in that inflow channels are arranged to branch off on both sides of each distributor channel and that the branch-off sites of mutually opposite inflow channels are arranged in a mutually staggered relationship.

11. (Previously Presented) The sample support according to claim 39, characterized in that each venting opening of each reaction chamber has a connecting channel extending therefrom and that a plurality of such connecting channels are arranged to enter respectively one venting collecting channel comprising a venting collecting opening.

12. (Original) The sample support according to claim 11, characterized in that each connecting channel and/or each venting opening includes a means for preventing a further flow of sample liquid effected by capillary forces.

13. (Original) The sample support according to claim 12, characterized in that said capillary-force prevention means are arranged in the entrance regions of the connecting channels into the venting channels.

14. (Previously Presented) The sample support according to claim 12 or 13, characterized in that each of said capillary-force prevention means is provided as a widened portion of a connecting channel or venting opening, which widened portion respectively comprises a side surface with a connecting channel entering thereinto, and that the entrance region of the portion of the connecting channel extending from the reaction chamber is not delimited in the widened portion by any corner regions or only by such a small number of corner regions with rounding radii generating a capillary force that the flow of the sample liquid in the entrance region is prevented.

15. (Original) The sample support according to claim 14, characterized in that each venting collecting channel is arranged to extend from a reagent receiving chamber for receiving a reagent liquid, with the flow of the reagent liquid performed via the venting channels by capillary forces generated within the venting channels, and that, within the entrance region of each venting collecting channel into the widened portions and/or within the entrance regions where the portions of the connecting channels extending from the venting channels enter the widened portions, a means is arranged for generating a capillary force for filling the widened portions.

16. (Previously Presented) The sample support according to claim 15, characterized in that each reagent receiving chamber comprises a bottom surface and side surfaces extending at an angular orientation thereto, and that the venting collecting channel assigned to a reagent receiving chamber is arranged to enter the reagent receiving chamber above said bottom surface,

and that a means for generating a capillary force to cause reagent liquid to flow from the reagent receiving chamber into the venting collecting channel is arranged between said entrance and said bottom surface.

17. (Original) The sample support according to claim 16, characterized in that said capillary-force generating means is formed as an outflow groove having a cross-sectional area and shape suited to generate a flow of the reagent liquid by capillary force.

18. (Previously Presented) The sample support according to claim 17, characterized in that said outflow groove is provided as a trough formed in a side surface.

19. (Previously Presented) The sample support according to claim 17, characterized in that said outflow groove is provided as a transition region between two adjacent and mutually angled side surfaces, the transition region having a rounding radius sufficiently small to generate capillary forces causing a flow of the reagent liquid.

20. (Original) The sample support according to claim 14, characterized in that each venting collecting channel is arranged to extend from a reagent receiving chamber for receiving a reagent liquid, and that, within the entrance region of each venting collecting channel into the widened portions and/or within the entrance regions where the portions of the connecting channels extending from the venting channels enter the widened portions, a means is arranged for generating a capillary force for filling the widened portions.

21. (Previously Presented) The sample support according to claim 39, characterized in that means are provided for causing a controlled flow of the sample liquid through the distributor channels into the reaction chamber.

22. (Original) The sample support according to claim 21, characterized in that said flow control means comprise valves arranged in each distributor channel and/or the venting openings of the reaction chambers, or downstream thereof.

23. (Original) The sample support according to claim 22, characterized in that each valve can be switched hydraulically and pneumatically, respectively, from a closed condition into an open condition by external control and/or by application of pressure onto the sample liquid or the as bearing against the valve.

24. (Original) The sample support according to claim 23, characterized in that each valve comprises a burst film and/or a porous hydrophobic insert and/or a hydrophobic inner wall.

25. (Original) The sample support according to claim 23, characterized in that each valve is provided as a widened channel portion arranged in a distributor channel, that the first portion of a valve channel extending from a sample receiving chamber is arranged to enter said widened channel portion, and the second portion of the distributor channel connecting to the inflow channels is arranged to extend from said widened channel portion, the entrance region of the first portion of the distributor channel into said widened portion being not delimited by any

corner regions or only by such a small number of corner regions with rounding radii generating a capillary force that the flow of the sample liquid in the entrance region is interrupted.

26. (Original) The sample support according to claim 25, characterized in that, by application of pressure onto the sample liquid in said first portions of the distributor channels, said widened channel portions can be filled with the sample liquid such that said portions of the distributor channels can be bridged by sample liquid.

27. (Original) The sample support according to claim 25, characterized in that each widened channel portion is entered by a control channel for a control liquid by which the widened channel portion can be filled such that said portions of the distributor channels can be bridged by sample liquid.

28. (Previously Presented) The sample support according to claim 27, characterized in that the flow of the control liquid through the control channels is caused exclusively by capillary forces.

29. (Original) The sample support according to claim 28, characterized in that the flow of the control liquid out of the control channels into the widened channel portions is caused also by capillary forces and/or by application of pressure onto the control liquid.

30. (Original) The sample support according to any one of claim 27 to 29, characterized in that each control channel is arranged to extend from a control-liquid receiving chamber to the respective widened channel portion.

31. (Previously Presented) The sample support according to claim 30, characterized in that each sample liquid receiving chamber comprises a bottom surface and side surfaces extending at an angular orientation thereto, and that the venting collecting channel assigned to a control liquid receiving chamber is arranged to enter the control liquid receiving chamber above said bottom surface, and that a means for generating a capillary force to cause control liquid to flow from the control liquid receiving chamber into the venting collecting channel is arranged between said entrance and said bottom surface.

32. (Previously Presented) The sample support according to claim 31, characterized in that said capillary-force generating means is formed as an outflow groove having a cross-sectional area and shape suited to generate a flow of the control liquid exclusively by capillary force.

33. (Previously Presented) The sample support according to claim 32, characterized in that said outflow groove is provided as a trough formed in a side surface.

34. (Previously Presented) The sample support according to claim 39, characterized in that said chambers, channels and other structures are arranged within a base body from at least one side thereof and that said at least one side of the base body is covered in a liquid-tight manner by a cover body.

35. (Original) The sample support according to claim 34, characterized in that said base body and said cover body are made of plastic, glass, metal or silicon.

36. (Original) The sample support according to claim 34 and 35, characterized in that said cover body is a film.

37. (Previously Presented) The sample support according to claim 39, characterized in that said at least one reaction chamber contains dried reagents.

38. (Canceled)

39. (Previously Presented) A sample support, comprising

at least one sample receiving chamber for a sample liquid, a distributor channel for sample liquid, connected to said at least one sample receiving chamber, with at least one such distributor channel extending from said at least one sample receiving chamber, at least one reaction chamber comprising a cavity which is delimited by surfaces and is entered by an inflow channel branched off said at least one distributor channel, and

a venting opening for each reaction chamber,

each distributor channel and each inflow channel being dimensioned to have the liquid transport through the distributor and inflow channels effected by capillary forces,

characterized in that, in each reaction chamber, said surfaces in the entrance region of the inflow channel which are provided for delimiting said cavity, are configured as a means for generating a capillary force causing the sample liquid to flow from the inflow channel into the reaction chamber exclusively by capillary force.

40. (Presently Presented) A sample support, comprising

at least one sample receiving chamber for a sample liquid,

a distributor channel for sample liquid, connected to said at least one sample receiving chamber, with at least one such distributor channel extending from said at least one sample receiving chamber,

at least one reaction chamber comprising a cavity which is delimited by surfaces and is entered by an inflow channel branched off said at least one distributor channel, and

a venting opening for each reaction chamber,

each distributor channel and each inflow channel being dimensioned to have the liquid transport through the distributor and inflow channels effected by capillary forces,

wherein, in each reaction chamber, said surfaces in the entrance region of the inflow channel, which delimit the cavity, are arranged so that the sample liquid flows from the inflow channel into the reaction chamber exclusively by capillary force.

41. (New) A sample support, comprising

at least one sample receiving chamber for a sample liquid, a distributor channel for sample liquid, connected to said at least one sample receiving chamber, with at least one such distributor channel extending from said at least one sample receiving chamber, at least one reaction chamber comprising a cavity which is delimited by surfaces and is entered by an inflow channel branched off said at least one distributor channel, and

a venting opening for each reaction chamber,

each distributor channel and each inflow channel being dimensioned to have the liquid transport through the distributor and inflow channels effected by capillary forces,

characterized in that, in each reaction chamber, said surfaces in the entrance region of the inflow channel which are provided for delimiting said cavity, are configured as a means for generating a capillary force causing the sample liquid to flow from the inflow channel into the reaction chamber exclusively by capillary force without the need of additional capillarity providing structures within the reaction chamber.

42. (New) A sample support, comprising

at least one sample receiving chamber for a sample liquid,

a distributor channel for sample liquid, connected to said at least one sample receiving chamber, with at least one such distributor channel extending from said at least one sample receiving chamber,

at least one reaction chamber comprising a cavity which is delimited by surfaces and is entered by an inflow channel branched off said at least one distributor channel, and

a venting opening for each reaction chamber,

each distributor channel and each inflow channel being dimensioned to have the liquid transport through the distributor and inflow channels effected by capillary forces,

wherein, in each reaction chamber, said surfaces in the entrance region of the inflow channel, which delimit the cavity, are arranged so that the sample liquid flows from the inflow channel into the reaction chamber exclusively by capillary force without the need of additional capillarity providing structures within the reaction chamber.